

PROJECT NUMBER: 2106
PROJECT TITLE: Cigarette Performance and Design
PROJECT LEADER: R. W. Dwyer
PERIOD COVERED: November 1989

I. SUBJECT Cigarette Delivery Modeling (D. Newman, B. Dwyer)

- A. Objective: Develop computer programs to assist in designing cigarettes.
- B. Results: A computer program has been written to evaluate the effects of bands of burn-control agents applied to cigarette papers. The program predicts the effects of the band positions and frequencies on puff count and tar delivery.

We are also working with Operations Services and Quality Assurance to develop criteria for incoming materials. In order to identify critical properties of such materials and quantify the effects of these properties on cigarette performance, we are using the delivery model to make predictions. Currently, we are evaluating the effects of wrapper permeability and citrate variations on tar and puff-count variabilities.

II. SUBJECT ART Processing Studies (D. Simpson, T. Howell)

- A. Objective: Support the design and operation of the ART program.
- B. Results: Two trips were made to Pemco Corp to visualize tobacco-bed fluidization in their apparatus. These results have assisted in our design of a gas distribution plate for the commercial process.

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